

REMARKS

I. Status of Claims and Election of Species

Claims 1-87 are pending in this application. Claims 42-44, 46-58, 65, 67-72, 79, and 81-84 are withdrawn from consideration as being directed to non-elected species of invention.

The Examiner maintained the election of species requirement. Additionally, the Examiner further defined Applicants' election of species (a), a hydroxyl functional polycarboxylate, as an unsaturated ester of a hydroxyl functional polycarboxylate. Applicants confirm the Examiner's election of species and request that, if the elected species is found allowable,¹ the Examiner continue to examine the full scope of at least claims 1-41, 45, 59-64, 66, 73-78, 80, and 85-87 to the extent necessary to determine the patentability of these pending claims, i.e., extending the search to a reasonable number of the non-elected species, as is the duty according to M.P.E.P. § 803.02 and 35 U.S.C. § 121.

II. Rejection Under 35 U.S.C. § 112, Second Paragraph

Applicants thank the Examiner for withdrawing the rejection of claims 14 and 15 under 35 U.S.C. § 112, second paragraph.

The Examiner rejected claims 45 and 59-61 under 35 U.S.C. § 112, second paragraph, stating that "an uncured coating composition is not permanently adhered to a substrate and thus does not form a 'coating.'" Office Action at p. 3. The Examiner

¹ Applicants acknowledge and appreciate the Examiner's indication that Maag does "not disclose [Applicants] elected species of composition." Office Action at p. 6. Applicants additionally acknowledge and appreciate the Examiner's indication that Maag does "not disclose compositions comprising a siloxane containing thermally curable reactive groups for thermally curable component A." Office Action at p. 7.

asserts that an “uncured composition applied onto a substrate fails to provide a ‘coated’ substrate, as understood in the coating technology, until the composition is cured, polymerized or hardened in order to provide a ‘coating.’” *Id.* at p. 5. The Examiner does not cite to any support of such an understanding in the coating technology. Applicants respectfully submit, for the reasons provided below, that those skilled in the art would be apprised of the claims’ scope, and thus, the claims serve their respective notice function as required by section 112, second paragraph. M.P.E.P. § 2173.02.

The term “coat” is defined by *Merriam-Webster’s Collegiate Dictionary* as “a layer of one substance covering another,” and provides as an example, “a [coat] of paint.” *Merriam-Webster’s Collegiate Dictionary* 219 (10th Ed.). *The American Heritage College Dictionary* provides a definition consistent with *Merriam-Webster’s Collegiate Dictionary*. It defines a “coat” as “[a] layer of material covering something else; a coating.” *The American Heritage College Dictionary* 267 (3rd Ed.). It further states, “[t]o cover with a layer, as of paint.” *Id.* These commonly understood and accepted definitions are consistent with Applicants’ previously provided example that a wallboard that has been freshly painted would comprise a “coating” as soon as the paint is applied to it. September 20, 2004, Response at p. 5. Neither of these well-accepted definitions require Applicants’ coating to be “cured, polymerized or hardened.” The Examiner’s unsupported assertion unnecessarily restricts the term “coated” from its commonly understood definition. Accordingly, Applicants respectfully request withdrawal of the Examiner’s rejection of claims 45 and 59-61.

Additionally, in the outstanding Final Office Action, the Examiner introduced a new ground for rejection, and for the first time rejects claims 59-61 under section 112,

second paragraph stating that the phrase “forming a composition” is not clear. Office Action at p. 5. Specifically, the Examiner asserts the phrase is not clear and questions whether the Applicants intend to claim (1) a method of applying the composition to the substrate or (2) a method of providing a film or sheet by curing the composition and applying it to the substrate. *Id.*

Applicants submit that the plain meaning of the terms in the phrase is clear to those of ordinary skill in the art to mean applying the composition of claim 1 over at least a portion of the substrate. Moreover, consistent with the reasoning provided above, and contrary to the Examiner’s assertion, there is no requirement in claims 59-61 that the composition coated on at least a portion of the substrate be cured.

For at least these reasons, Applicants respectfully submit that the rejection of claims 59-61 under section 112, second paragraph is improper and request that it be withdrawn.

III. **Rejection Under 35 U.S.C. § 102**

The Examiner rejected claims 1-11, 17-20, 34-37, and 45 under § 102(b) as anticipated by Maag et al. (WO 98/40170)(“Maag”).²

Applicants maintain that in order for Maag to properly anticipate Applicants’ claims under section 102, the Examiner must show that Maag discloses “each and every aspect of the claimed invention” and that the Applicants’ claimed invention “must be shown in as complete detail as is contained in the . . . claim.” M.P.E.P. §§ 706.02 and 2131; *Richardson v. Suzuki Motor Co.*, 868 F.2d 1226, 1236 (Fed. Cir. 1989).

² The Examiner (and Applicants herein) continue referring to U.S. Patent No. 6,333,077, the apparent English language counterpart to WO 98/40170.

Applicants also maintain that the Examiner's burden is not satisfied if the rationale supporting the anticipation rejection requires picking and choosing. See *In re Arkley*, 455 F.2d 586, 587 (C.C.P.A. 1972). In view of the fact that Maag discloses silicone (meth)acrylate as one of numerous prepolymers or oligomers disclosed in the reference, combined with the fact that none of the examples in the reference teach the use of silicone (meth)acrylate, Applicants respectfully submit that inappropriate picking and choosing was relied upon to support the Examiner's rejection. Such picking and choosing is simply not proper when making a rejection under section 102.

In the outstanding Office Action, the Examiner now asserts that Maag teaches that "**any** polymer or oligomer having free radically polymerizable olefinic double bonds is suitable" in Maag. Office Action at p. 3 (emphasis added). Thus, rather than rebutting Applicants' arguments, the Examiner's explanation serves to further support Applicants' position that attempting to rely on Maag as an anticipatory reference requires inappropriate picking and choosing. Disclosing, as the Examiner noted, that **any** polymer or oligomer having free radically polymerizable olefinic double bonds is suitable in Maag shows that Maag does not disclose the elements of Applicants' claimed invention "in as complete detail as is contained in [Applicants'] claim." M.P.E.P. § 2131; *Richardson*, 868 F.2d at 1236. Rather, the broad disclosure of Maag, at best, would have led one of ordinary skill in the art to further investigate the selection of one polymer or oligomer from among the many other polymers or oligomers disclosed in the reference. Again, this selection is inappropriate in an anticipation rejection. Applicants respectfully submit the rejection under section 102(b) should be withdrawn for this reason.

Additionally, Applicants request clarification regarding the statement on page 3 of the outstanding Office Action that refers to a “comparative showing of unexpected results” when discussing this section 102(b) rejection. Specifically, when discussing the disclosure of Maag and the rejection under section 102(b), the Examiner asserts that Applicants “could overcome the rejection with a comparative showing of unexpected results for compositions comprising silicone (meth)acrylates instead of the alternative olefinically unsaturated materials taught by Maag.” Office Action at p. 3. Applicants are confused by this statement since such a showing may only be used to overcome an obviousness rejection under section 103(a) rather than an anticipation rejection under section 102(b). Clarification is requested regarding the applicability of such a “comparative showing of unexpected results” to the section 102(b) rejection relying on Maag.

Applicants respectfully submit that the reliance on Maag as an anticipatory reference requires inappropriate picking and choosing, and thus Maag does not anticipate independent claim 1 or dependent claims 2-11, 17-20, 34-37, 45, and 59-61. Accordingly, Applicants respectfully request withdrawal of the § 102 rejection of claims 1-11, 17-20, 34-37, 45, and 59-61.

IV. Rejections Under 35 U.S.C. § 103

A. Maag

The Examiner rejects claims 1-11, 17-20, 34-37, 45, and 59-61 under 35 U.S.C. § 103(a) as being obvious over Maag for the reasons set forth on pages 3, 4, and 6 of the Office Action dated October 26, 2004. Applicants respectfully traverse this rejection

because the Examiner has not individually demonstrated each of the separate requirements for prima facie obviousness, for example, the motivation to modify the reference, **and** the expectation of success in making the modification. See M.P.E.P. § 2142.

The Examiner continues to assert that “one of ordinary skill in the art would have been ***motivated by a reasonable expectation of success***” to include silicone methacrylate in system B because Maag teaches that “any of the (meth)acrylate functional prepolymers or oligomers, including silicone (meth)acrylates, mentioned would provide a free-radically curing system in the clear lacquer coating composition disclosed.” Office Action at pp. 3-4, 6 (emphasis added). Applicants respectfully submit that relying on one requirement to demonstrate a prima facie case of obviousness does not provide for the other. Rather, each requirement is separate from the others, and all must be shown in order to establish a prima facie case.

In the present case, the Examiner relied upon an expectation of success in order to provide the requisite motivation. The Examiner has not pointed to any teaching in Maag, nor do Applicants believe that any teaching exists, that would have led one of ordinary skill in the art to make the substitution suggested by the Examiner. A reliance on an “expectation of success” is not sufficient to provide such a motivation; the Examiner must point to objective evidence that would have provided the desirability of making the combination recited in Applicants’ claims. See *In re Kotzab*, 217 F.3d 1365, 1369-70 (Fed. Cir. 2000).

Moreover, for a proper section 103 rejection, “it is necessary to ascertain whether or not the reference teachings would appear to be sufficient for one of ordinary skill in

the relevant art having the reference before him to make the proposed substitution, combination, or other modification.” M.P.E.P. § 2143.01 (quoting *In re Linter*, 458 F.2d 1013, 1016 (C.C.P.A. 1972)). The mere fact that a reference can be modified does not render the resulting composition obvious **unless** the prior art also provides a suggestion or motivation to do so. M.P.E.P. § 2143.01 (citing *In re Mills*, 916 F.2d 680 (Fed. Cir. 1990)).

The basis for the Examiner’s section 103 rejection is that one of ordinary skill in the art, having Maag as a guide, would choose to include silicone (meth)acrylate into Maag’s system B because Maag teaches that “**any** polymer or oligomer having free radically polymerizable olefinic double bonds are suitable.” Office Action at p. 3 (emphasis added). But such an broad explanation does not shed light on what would have motivated the skilled artisan to select, as asserted by the Examiner, silicone (meth)acrylate from such a large class of chemicals, *i.e.*, **any** polymer or oligomer having free radically polymerizable olefinic double bonds. When one takes into consideration that **none** of the examples disclosed in Maag use silicone (meth)acrylate in system B, it is apparent that nothing in Maag could have provided the required guidance to pick silicone (meth)acrylate from among all the other polymers and oligomers contained in the broad class disclosed in Maag.

Finally, Applicants note the Examiner’s acknowledgment that Maag does “not disclose compositions comprising a siloxane containing thermally curable reactive groups for thermally curable component A.” Office Action at p. 7. Claim 1 requires “at least one second material comprising at least one thermally curable reactive functional group.” Since Maag fails to disclose a siloxane containing thermally curable reactive

groups, the silicone pointed to by the Examiner in Maag fails to disclose each and every element recited in, for example, independent claim 1 of the present invention.

Accordingly, Applicants respectfully request withdrawal of the section 103 rejections based on Maag alone.

B. Maag In View of Wilt

The Examiner rejects claims 12-16 as obvious over Maag for the reasons provided in rejecting claims 1-11, 17-20, 34-37, 45, and 59-61, and further in view of U.S. Patent No. 5,939,491 to Wilt et al. ("Wilt"). The Examiner states that "Wilt et al teach that the group R^a in formulas (II) and (III) has the structure R_1-O-X wherein R_1 is alkylene in which alkylene refers to the linking group $-(CH_2)_n-$ and not to a polymerizable double bond." Office Action at p. 4.

The deficiencies of Maag are emphasized above. The teachings of Wilt fail to overcome all of these deficiencies because, for example, Wilt fails to provide the motivation to make the substitution suggested by the Examiner. Accordingly, the rejection should be withdrawn for this reason alone.

Furthermore, in the rejection of record, the Examiner concludes that it "would have been obvious to one skilled in the art at the time the invention to employ a thermally curable polysiloxane disclosed by [Wilt] as component (A) in the compositions disclosed by Maag." Office Action at p. 7. As emphasized by Applicants in the previous response, Maag's component A) "contains substantially no free-radically polymerisable double bonds and substantially no groups capable of reacting in another way with free-radically polymerisable double bonds in system B)." Maag, Abstract.

It is Applicants' understanding that the Examiner believes that the double bond of R^a in either formulas (II) or (III) are not polymerizable double bonds. The Examiner provides no support for such a belief. M.P.E.P. § 2144.03. In contrast, Applicants submit Wilt's polysiloxanes do in fact contain polymerizable double bonds. See, e.g. Wilt, col 2., lines 15-39 and claims 1-9. Thus, Wilt's polysiloxanes could not satisfy Maag's requirements at least because those polysiloxanes would contain at least one free-radically polymerizable double bond.

Additionally, Wilt discloses that X (from R_1-O-X in structures (II) and (III)) is "a moiety containing a functional group selected from the group consisting of OH, COOH, NCO, carboxylate such as ester" Wilt at col. 2, lines 8-39. This is significant because Maag's system A) also requires "substantially no groups capable of reacting in another way with free-radically polymerisable double bonds of system B)." Maag, Abstract. Therefore, Wilt's polysiloxane, which includes "reactive functional groups," could not satisfy the specific requirements of Maag. Wilt at col. 2, lines 55-58; M.P.E.P. § 2143.01 ("If proposed modification would render the prior art invention being modified unsatisfactory for its intended purpose, then there is no suggestion or motivation to make the proposed modification.").

For at least these reasons provided above and contrary to the Examiner's assertions, Maag and Wilt both fail to provide the necessary motivation, and in fact, teaches away from the Examiner's combination.

C. Maag In View of Bilkadi

The Examiner rejects claims 21-33 as obvious over Maag for the reasons provided in rejecting claims 1-11, 17-20, 34-37, 45, and 59-61, and further in view of

U.S. Patent No. 5,104,929 to Bilkadi ("Bilkadi"). The Examiner states that Maag provides motivation to add "transparent pigments and/or extenders" and that Bilkadi teaches that the "disclosed silicone-free dispersions of silica are clear and stable in photocurable acrylate monomer compositions and exhibit excellent abrasion resistant and weatherable coatings for applications such as motorized vehicles." Office Action at p. 4. As with Wilt, the teachings of Bilkadi fail to overcome all of the deficiencies of Maag discussed above at least because Bilkadi fails to provide the motivation to make the substitution suggested by the Examiner. Accordingly, the rejection should be withdrawn for this reason alone.

Additionally, Applicants' composition recited in claim 1, upon which claims 21-33 are dependent, either directly or indirectly, require "at least one second material comprising at least one thermally curable reactive functional group." As acknowledged by the Examiner, Maag does "not disclose compositions comprising a siloxane containing thermally curable reactive groups for thermally curable component A." Office Action at p. 7. Thus, Bilkadi must make up for this deficiency. However, Bilkadi specifically states that "thermally cured protective coatings are not desirable for plastic substrates" Bilkadi at col. 1, lines 51-53. Bilkadi is directed to a composition cured by exposure to radiation and not thermal. Bilkadi specifically states that the disclosed compositions are "UV curable." Bilkadi at col. 3, lines 38-58. Therefore, Bilkadi teaches away from thermally cured compositions, including Applicants' claimed composition.

For at least the reasons provided above, Applicants respectfully request withdrawal of these § 103 rejections.

V. Rejection for Double Patenting

The Examiner rejects claims 1-41, 45, and 59-61 under the judicially-created doctrine of obviousness-type double patenting as being unpatentable over claims 1-75 of U.S. Patent No. 6,387,519 ("the '519 patent") for the reasons set forth on pages 4, 8 and 9 of the Office Action dated October 26, 2004. Applicants respectfully traverse this rejection for the reasons of record as well as the reasons set forth below.

Claim 1 of the present invention is directed to a coating composition formed from components comprising:

- (a) at least one first material comprising at least one radiation curable reactive functional group;
 - (b) at least one second material comprising at least one thermally curable reactive functional group;
 - (c) at least one curing agent reactive with the at least one thermally curable reactive functional group, the at least one curing agent being selected from aminoplast resins, polyisocyanates, blocked polyisocyanates, triazine derived isocyanates, polyepoxides, polyacids, polyols and mixtures of the foregoing; and
 - (d) a plurality of particles selected from inorganic particles, composite particles, and mixtures of the foregoing,
- wherein each component is different; and
- wherein at least one of the at least one first material or the at least one second material comprises at least one polysiloxane.

The Examiner relies upon claims 19 and 45 in the '519 patent to show components comprising radiation curable functional groups. See Office Action at p. 4. As set forth above, however, claim 1 of the present invention recites more than a component comprising such radiation curable functional group; rather, claim 1 additionally recites,

among other things, at least one component comprising at least one thermally curable reactive functional group.

Claim 1 of the '519 patent contemplates a cured composition which is cured by, among other things, exposure to a) ionizing radiation or actinic radiation and b) thermal energy. Claims 19 and 45 of the '519 patent, as pointed to by the Examiner, contemplate a polysiloxane comprising reactive functional groups. Applicants submit, however, that the claims of the '519 patent fall short of necessarily suggesting a coating composition formed from components comprising, among other things, (a) at least one first material comprising at least one radiation curable reactive functional group **and** (b) at least one second material comprising at least one thermally curable reactive functional group, wherein each component is different; and at least one of the at least one first material or the at least one second material comprises at least one polysiloxane.

Because the claims of the '519 patent do not render obvious such a combination of components, Applicants submit the rejection under the judicially-created doctrine of obviousness-type double patenting is in error, and request that it be withdrawn.

VI. Request for Interview

Applicants respectfully request a personal interview with the Examiner prior to the issuance of another Office Action in this application. Applicants representative will contact the Examiner in the near future in order to schedule such a personal interview. If the Examiner would like to propose a time for such an interview, the Examiner is invited to contact Mark Sweet, Applicants representative, at 202-408-4162.

CONCLUSION

For at least the reasons provided above, Applicants respectfully request the reconsideration of the application, and the timely allowance of all pending claims.

Please grant any extensions of time required to enter this response and charge any additional required fees to our Deposit Account No. 06-0916.

Respectfully submitted,

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GARRETT & DUNNER, L.L.P.

Dated: March 28, 2005

By: 

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